

CLAIMS

What is claimed is:

1. An ink detecting device of an inkjet printer, comprising:
 - an ink tank comprising a predetermined amount of ink;
 - a supporting member disposed at a predetermined position to detect when an ink level is decreased below a predetermined level;
 - a luminous member comprising a self-luminous material and supported by the supporting member; and
 - a photo detector to detect a light emitted from the luminous member when the ink level in the ink tank is lower than the predetermined level.
2. The ink detecting device according to claim 1, further comprising:
 - a transparent window disposed at a corresponding position of the supporting member to pass the light from the luminous member,
 - wherein the photo detector detects the light passed through the transparent window.
3. The ink detecting device according to claim 1, wherein the luminous member is a luminous paper.
4. The ink detecting device according to claim 1, wherein the luminous member is a luminous paint.
5. The ink detecting device according to claim 1, wherein the supporting member is disposed at a sidewall of the ink tank.
6. The ink detecting device according to claim 1, wherein the supporting member is disposed at a bottom of the ink tank.
7. An inkjet printer comprising an ink level detecting device, the inkjet printer comprising:
 - a photo detector; and

an ink level detecting device detecting an amount of residual ink in the printer using the photo detector, and comprising a luminous member comprising a self-luminous material or a material with fluorescent or luminous paints to detect when a level of ink is lower than a predetermined level during a printing operation without a separate light source.

8. The ink detecting device according to claim 7, further comprising:
a controller controlling operations of the inkjet printer and outputting a signal indicative that the level of ink is lower than the predetermined level to an output device.

9. The ink detecting device according to claim 7, wherein the output device comprises a display.

10. The ink detecting device according to claim 7, wherein the ink level detecting device comprises

an ink tank comprising a liquid carrier and a toner used as a developer for the inkjet printer,
a supporting member disposed at a sidewall of the ink tank to detect when the ink is low,
a transparent window passing a light from the luminous member and disposed at a bottom of the ink tank, and
a photo detector detecting the light from the luminous member.

11. The ink detecting device according to claim 10, wherein when the ink tank is full, the ink level is over the transparent window and the light from the luminous member cannot pass through the transparent window, and the photo detector cannot detect any light.

12. The ink detecting device according to claim 10, wherein when the ink tank is not full, the ink level is under the transparent window and the light emitted from the luminous member passes through the transparent window.

13. The ink detecting device according to claim 7, wherein the ink level detecting device comprises

an ink tank comprising a liquid carrier and a toner used as a developer for the inkjet printer,

a supporting member disposed at the bottom of the ink tank to detect when the ink is low,

a transparent window passing a light from the luminous member and disposed at a sidewall of the ink tank, and

a photo detector detecting the light from the luminous member.

14. An ink detecting device of an inkjet printer, comprising:

a luminous member comprising a self-luminous material to detect when a level of ink is lower than a predetermined level during a printing operation.

15. The ink detecting device according to claim 14, wherein the luminous paper is disposed at a predetermined position of an ink tank to detect whether the ink is lower than the predetermined level using a light emitted therefrom.